

Doc Code: APP PRE REQ

PTO/SB/33 (07-05)

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Docket Number (Optional)

2003-IP-009800U1

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on August 25, 2006

Signature

Typed or printed

name

Tammy Knight

Application Number

10/717,680

Filed

11-20-2003

First Named Inventor

Norman, et al.

Art Unit

1623

Examiner

White, Everett

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒

attorney or agent of record.

Registration number 28,626☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

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August 25, 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐

*Total of _____ forms are submitted.

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REMARKS

In a Final Office Action dated June 1, 2006 (“Final Office Action”), the Examiner improperly rejected claims 1-4, 6, 7, 32, and 34 under 35 U.S.C. § 102(b) and claim 5 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,002,125 to Phillips *et al.* (“*Phillips*”). The rejections of claims 1-7, 32, and 34 contain clear legal and factual deficiencies.

Specifically, *Phillips* does not disclose or teach every limitation of the claims 1-7, 32, and 34. Claim 1 requires, in part, the steps of “derivatizing a polysaccharide with a metal coordinating group to produce a derivatized polysaccharide having bidentate ligands,” and “crosslinking the derivatized polysaccharide having bidentate ligands with a metal ion to form a metal ligand coordination complex.” Claim 32 is directed to a metal ion crosslinked polysaccharide produced by a method that includes these steps. *Phillips* does not disclose these limitations of claims 1 and 32, and thus, for at least that reason, *Phillips* cannot anticipate Applicants’ claims. Claims 2-7 depend from 1 and are allowable for the same reasons. Similarly, claim 34 depends from claim 32 and is allowable.

1. ***Phillips* Does Not Teach All of the Elements of Claims 1-4, 6, and 7, and Therefore, Cannot Anticipate Those Claims.**

To show the limitations of claims 1 and 32 in *Phillips*, the Final Office Action asserts that *Phillips* “uses identical components to form crosslinked polysaccharides,” and that “[a]lthough, the instantly claimed method and the process disclosed in [*Phillips*] may describe the various components of the reaction at different points of time, identical components described in each of the documents are present in the respective processes to produce an identical crosslinked polysaccharide.” (See Final Office Action at pages 2-3.)

This rejection is erroneous for several reasons. First, claims 1-4, 6, and 7 are drawn to method claims. *Phillips* does not disclose a method that includes the steps of “derivatizing a polysaccharide with a metal coordinating group to produce a derivatized polysaccharide having bidentate ligands,” and “crosslinking the derivatized polysaccharide having bidentate ligands with a metal ion to form a metal ligand coordination complex.” Moreover, even if the Examiner is correct that “an identical crosslinked polysaccharide” is produced in *Phillips*, this would not anticipate the method. The methods are patentable so long as *Phillips* neither expressly nor inherently describes those methods. *Phillips* does neither. Additionally, *Phillips* does not explicitly disclose *any* method of derivatizing a polysaccharide,

much less does it describe any method of forming a polysaccharide derivative that comprises bidentate ligands, as recited in Applicants' claims.

Furthermore, the Examiner has not shown that the components described in *Phillips* will "necessarily" perform the methods recited in Applicants' claims, or that it would be so recognized by persons of skill in the art. See MANUAL OF PATENT EXAMINING PROCEDURE § 2112 (2005). Even if the methods recited in Applicants' claims could be formed in *Phillips*, that would not establish that *Phillips* inherently discloses those methods. See *id.*

Rather, as Applicants have shown previously, the structures and methods described in *Phillips* are completely different from those described in Applicants' claims. (See Amendment and Response to Non-Final Office Action Mailed December 8, 2005 (response filed March 7, 2006) at page 5.) *Phillips* discloses the formation of a conventional crosslinked polysaccharides by allowing polysaccharide molecules to interact with a titanium acetylacetonate cross-linking agent, wherein the titanium ion is initially and independently associated with acetylacetonate, $(C_5H_7O_2)_2Ti(OC_3H_7)_2$. (See *Phillips* at col. 10, ll. 22-26.) In contrast, in Applicants' claims, a polysaccharide molecule is derivatized with a bidentate ligand (e.g., acetylacetonate), and then that bidentate ligand subsequently interacts with a metal ion to crosslink the derivatized polysaccharide. As Applicants explained in their previous response, derivativizing and crosslinking are completely different chemical reactions that result in completely different molecular structures (for example, as illustrated in Equations 2 and 3 of Applicants' specification, respectively). (See Amendment and Response to Non-Final Office Action Mailed December 8, 2005 (response filed March 7, 2006) at page 5.) As an example of this process, Applicants' have described detailed procedures by which the polysaccharide is derivatized with bidentate ligands (see, e.g., Original Application, Description of Preferred Embodiments at ¶ [024]), procedures which are clearly separate and distinct from the crosslinking of the derivatized polysaccharide (see, e.g., *id.* at ¶ [025]). Therefore, *Phillips'* teaching of crosslinking polysaccharide molecules using titanium acetylacetonate does not disclose the step of derivativizing a polysaccharide to produce a derivatized polysaccharide having bidentate ligands, and then cross-linking that derivatized polysaccharide, as recited in Applicants' claims.

Therefore, Applicants respectfully assert that claim 1 is allowable over *Phillips*. Moreover, claims 2-4, 6, and 7 each depend, either directly or indirectly, from claim 1, and thus

incorporate the limitations of claim 1 that *Phillips* does not disclose. Therefore, claims 1-4, 6, and 7 are allowable over *Phillips*.

2. ***Phillips* Does Not Teach All of the Elements of Claims 32 and 34, and Therefore, Cannot Anticipate Those Claims.**

With respect to claims 32 and 34, the Examiner has asserted that the Office considers these claims as product claims, and that the process limitations in those claims “cannot impart patentability to a product that is not patentably distinguished over the prior art.” (See Final Office Action at page 3.) Applicants respectfully disagree. In fact, “[t]he structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art . . . where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product.” MANUAL OF PATENT EXAMINING PROCEDURE § 2113 (2005) (emphasis added). The method steps required in these claims clearly imply the creation of a specific structure—a derivatized polysaccharide having bidentate ligands—and the Examiner has failed to show that *Phillips* discloses these structural characteristics. Indeed, the Examiner has failed to do so because he cannot do so since, as discussed above, *Phillips* neither expressly nor inherently teaches these structures, and thus cannot anticipate claims 32 and 34.

Moreover, with respect to claim 34, *Phillips* cannot anticipate this claim because it does not disclose a metal ion crosslinked polysaccharide that comprises a derivatized polysaccharide having bidentate ligands wherein the bidentate ligands are 2,2'-bipyridine. Indeed, in the reasons for indicating that claim 33 is allowable, the Final Office Action acknowledges that *Phillips* does not disclose 2,2'-bipyridine ligands. (See Final Office Action at page 4.)

Therefore, claims 32 and 34 are allowable over *Phillips*.

3. ***Phillips* Does Not Teach All of the Elements of Claim 5, and Therefore, Cannot Obviate That Claim.**

The Examiner has rejected claim 5 under 35 U.S.C § 103(a) as being unpatentable over *Phillips*, in part, based on the assertion that *Phillips* anticipates the elements recited in claim 1 that are incorporated into claim 5. (See Non-Final Office Action Mailed December 8, 2005, at pages 5-6.) However, as discussed above, *Phillips* does not teach or suggest a method that includes the steps of “derivatizing a polysaccharide with a metal coordinating group to produce a derivatized polysaccharide having bidentate ligands,” and “crosslinking the derivatized


polysaccharide having bidentate ligands with a metal ion to form a metal ligand coordination complex,” as recited in claim 1. Since claim 5 depends, directly or indirectly, from claim 1, this dependent claim includes the limitations of claim 1 that *Phillips* does not teach or suggest. Therefore, claim 5 is allowable over *Phillips*.

CONCLUSION

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same.

Applicants believe that there are no fees due in association with this filing of this Response. However, should the Commissioner deem that any additional fees are due, including any fees for extensions of time, Applicants respectfully request that the Commissioner accept this as a Petition Therefor, and direct that any additional fees be charged to the Deposit Account of Halliburton Energy Services, Inc., No. 08-0300.

Respectfully submitted,



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Date: August 25, 2006